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ABSTRACT

The future of higher education institutions rests on the extent to which they meet the needs of society. A systemic mode of planning provides an ongoing mechanism that assures an institution's responsiveness to society's changing needs. Achieving consensus by appropriate groups regarding environmental assumptions that affect an institution is an integral part of the planning process. Sources of such assumptions about environmental factors currently affecting higher education include a shift from quantity revolution to an equality revolution; a switch from educational opportunity for all to educational opportunity for each; a spectacular increase of older students; effort to link the world of work and the world of education. Market analysis, or the identification of the relationship between the needs of students and the way the institution can meet those needs, is another environmental source of information useful to planning. It consists of a coherent way to plan responses to market conditions. Another important step in the development of the planning process is the interface of the budgeting process. The budget is a vehicle for communication of details about institutional priorities and objectives, and a means for assessing how well the institution achieved its purposes. (JEH)

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KEY DATA ELEMENTS IN A PLANNING, MANAGEMENT AND EVALUATION SYLLOGISTICAL MODE

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ABSTRACT

Critical as institutional planning is to a college's survival, only a small number "have effectively developed a plan, based on sound data about themselves and their setting, which is revised at least annually and upon which the institution's leadership acts daily".[1] Planning is a primary administrative function antecedent to managing and evaluating. A Planning, Managing, and Evaluating (PME) system is firmly based on an organizational process which strives to gather facts and put them together to produce meaning. These facts are linked to the mission and essential purposes of the institution and can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional programs costs, (5) library, (6) faculty productivity and reward structure, (7) personnel benefits, (8) new program development, (9) student learning outcomes, and (10) budgeting and fund raising.

Data are the foundation upon which to build the multi-year institution Plan, a document containing a grand design representing intelligent anticipation of activities, events, and experimental observations carefully specified in advance to move from one point to another. Data are needed (1) about environmental assumptions upon which to base planning; (2) about potential clients and unmet societal needs growing out of a needs assessment or market analysis/market segmentation process; and (3) for managing institutional areas as specified above. Probably most important, however, the data analysis process must strive to produce meaning as it relates to efficiency and effectiveness of relating dollars to institutional goals and objectives.

INTRODUCTION

Shortly after we began to work on our presentation, Bob and I were reminded of the minister who had been reassigned to a parish in Texas. Because he wanted to impress the congregation, he pulled his best sermon from his files. Only one parishioner, a cowboy, appeared in church on Sunday. The minister preached the entire sermon. After church the minister asked the cowboy how he liked the sermon. The cowboy responded, "You know Reverend, each night I take a load of fodder down to the watering hole to feed the cattle. If only one cow shows up, however, I don't give her the whole load."

After spending some time on the presentation and not wanting to give you the entire load, we arrived on the following limited, but achieveable objectives:

1. To define planning as used in this paper and list the elements of a

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comprehensive institutional planning process.
2. To describe the budgeting process and a method for relating fiscal resources to institutional goals and objectives.
3. To discuss the relationship between data and its use in a planning, management, and evaluation (PME) system.

THE NEED FOR PLANNING

The future of any institution including higher education, rests on the degree to which it meets the needs of the society in which it exists. As society changes, so must higher education change. If higher education is to remain a viable institution, it must be responsive to the needs of society. The way in which a specific college meets the challenge of being responsive to societal needs is a function, for the most part, of its sophistication in planning: comprehensive, long-range, and systematic. As critical as institutional planning is to a college's survival, however, only a very small number "have effectively developed a plan, based on sound data about themselves and their setting, which is revised at least annually and upon which the institution's leadership acts daily."[1] The Ohio Citizen's Task Force on Higher Education[2] and the Ohio Board of Regents Master Plan[3] identify paramount goals for Ohio's diverse structure of higher education and call for a shift from episodic, periodic production of master plans once every five years to a continuous systemic mode of planning.

PLANNING DEFINED

What is planning? The word planning is inadequate for expressing the wide range of encompassing concepts. The word does not differentiate between merely taking some thought of the immediate consequences of a single, simple act or accounting for all the variables throughout the ten-year period of landing a man on the moon and returning him safely to earth. In curriculum planning the word is the same whether we mean (1) specifying a single criterion-referenced objective for a student to demonstrate or (2) the arraying of the thousands of objectives necessary to demonstrate competence in order to earn a degree or (3) accounting for all the variables throughout a multi-year period of developing and field testing a new strategy for the preparation of professionals as in competency-based teacher education.

Some planning is a characteristic and pervasive behavior of all human beings and organizations; it is the hallmark of what we call rationality. If we were to draw a line to represent the possible range of ways an organization might make its decisions, one end of it could be called Ad Hoc and the other end Planned. In the Ad Hoc mode, decisions are made one-by-one according to the mood and judgment of the decision maker(s), unrestrained by plan or even precedents. In the Planned mode, every decision is wholly constrained by a previously adopted plan. There are, in practice, few examples of these perfect extremes. Somewhere between these two extremes is where most organizations are in their planning.

ELEMENTS OF THE PLANNING PROCESS

Planning is primary administrative function antecedent to implementing, coordinating and evaluating. A comprehensive planning process has several elements. First, there is a planning protocol. Some person(s) at an institution have responsibility for planning various aspects of the institution and they will follow some procedure in doing whatever it is they will do. How they do whatever they do should follow an agreed-upon set of steps.

Second, there is the need to develop a planning structure. Most institutions have some sort of structure for coordinating the ongoing activities of the institution. The structure may be quite simple, with a minimum number of persons participating in the decision-making process, or it may be quite complex involving a number of review committees and several levels of review boards. Regardless of complexity, there must be some structure for planning.

Third, there must be some way for stating and achieving consensus by appropriate groups on environmental assumptions about the institutions. Environmental assumptions are both internal and external to the institution. Internal environmental assumptions cut across every aspect of the institution, including program, students, instructional program costs, and fund raising. External environmental assumptions include such things as societal needs, economy, legislative mandates and state support. These assumptions are important in developing the alternative scenarios most likely to emerge in the next five to 10 years.

Environmental assumptions are an integral part of the planning process, particularly for technical education. Technical education prepares persons for "middle manpower" positions, a segment of the manpower spectrum which lies between the recognized professions on the one hand and the manual trades and crafts on the other.[4] The term subsumes a number of types of persons such as paraprofessional, semiprofessional, subprofessional, technician, foreman, middle management, engineering aide, and even some highly skilled crafts and trades. Educationally, the middle manpower occupations require education and training beyond high school but not to the level of the baccalaureate degree.

There are numerous sources of environmental assumptions. Statements about the general direction of higher education include (1) a shift from quantity revolution to an equality revolution,[5] (2) a switch from "educational opportunity for all to "educational opportunity for each",[6] (3) a spectacular increase of older students,[7] and (4) an effort to link more closely the world of work and the world of education.[8] Environmental assumptions relate to career education, continuing education, life-long learning,[9] and systems for measuring educational accomplishments. In the recent address by Robert E. Kinsinger, Vice President of the W.K, Kellogg Foundation, several interesting changes were forecast.[10]

1. Postsecondary education will modify even further its former preoccupation with the educational needs of youth and increase

dramatically its responsibility for providing lifelong educational opportunities.

2. The procedure for measuring educational accomplishments will change in dramatic ways. The system of amassing largely time-related academic units to reach the required total for a degree will yield to different output measures related to levels of competency in reference to designated bodies of knowledge and sets of skills.

Technological advancements are recorded in numerous sources and are essential in keeping the curriculum content current.[11]

A method for specifying goals is also integral to planning. This includes a methodology for (1) generating goal statements; (2) sorting, categorizing and prioritizing these goals; (3) refining the goals into specific objectives and noting interrelationsbips among them; and (4) specifying the relevance of goals and objectives to the support base of personal, physical and fiscal resources. Goals and objectives can be intramural or intermural.

Environmental assumptions are a source of goals and objectives. Goals can be obtained from needs assessment or market analysis.[12] Market analysis consists of obtaining detailed information about markets or market segments served or unserved by the institution. Market analysis is an organized effort to identify the relationship between specific needs and the ways the institution meets or could meet them. Market analysis is, in its simplest description, a more coherent way to plan our responses to environmental conditions. Another source of goals and objectives is a critical analysis or diagnosis of the students presently served by the college and its current curriculum offerings.

When goals have been stated and prioritized, a program is developed for each goal labeled a high priority. This stage of the planning process should yield a plan of action for each high priority goal. The plan of action should include specific objectives stated in the form of intended outcomes, a sequence of activities and events to lead from one point to another, and a time-line for reaching the goal. There should also be some plan for monitoring progress and evaluating the outcomes of the process of reaching the goal as well as the impact of the goal.

Sixth, there should be some formal evaluation protocol for examining the comprehensive planning process. The planning process yields a Plan, a document containing a grand design representing intelligent anticipation of activities, events, and experimental observations carefully specified in advance to move from one point to another. Evaluation of the planning process can be accomplished by persons within the organization or by some group external to it. (A Comprehansive Planning Process is Displayed in FIGURE 1)

Planning, however defined, has a focus on designing and shaping the future as opposed to merely changing. Integral to planning are methodologies for (1) generating goal statements and standards; (2) sorting, categorizing

and prioritizing goals; (3) refining goals, noting interrelationships among them; and (4) specifying the relevance of goals to the support base. As suggested in the preceeding paragraphs, organizations strive to gather facts and put them together to produce meaning. These facts can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional program costs, (5) library costs, (6) faculty productivity, (7) personnel benefits, (8) new program development, (9) fund raising, and (10) student learning outcomes. (FIGURE 2 is a model of the relationship of institutional data. The model does not imply that data packages are related only to other packages to which there is a connecting line. Rather, the design suggests that mission and purpose are the core for all institutional goals and that data modules are interrelated with each other and should be supportive of the institutional goals.) Planning, then, is critical analysis and requires the development of an analytical capability to collect, array, and analyze a large number of variables in an effort to portray a system of relationships, causality in some cases. The latter is the primary function of the Management Information System.

Because each institution is unique, it is impossible to list a definitive set of environmental assumptions and institutional goals and objectives which any other institution can automatically adopt from elsewhere. In specifying assumptions upon which to base planning, North Central Technical College found it useful to develop a list to stimulate thinking and to group the assumptions. The list of categories for stating assumptions is as follows:

1. Assumptions about the societal context within which NCTC exists
2. Assumptions about external agencies
3. Assumptions about institutional leadership/management
4. Assumptions about NCTC programs (existing and potential)
5. Assumptions about potential clients and enrollment
6. Assumptions about student services
7. Assumptions about staffing and professional development
8. Assumptions about physical plant
9. Assumptions about equipment
10. Assumptions about fiscal resources

Planning assumptions about the societal context in which an institution exists can focus on such issues of health, energy, transportation, lifelong training, quality of worklife, leisure, credentializing such as licensure and certification and program and institutional accreditation. Planning assumptions about external agencies can focus on the relationship between an institution and state and local governance, higher education as a system, articulation, and communication. Planning assumptions about existing and potential programs include new credit and non-credit programs growing out of needs analysis or market segmentation studies, use of advisory committees, and instructional development and support programs. Programs can be defined as new in content format, new in delivery system format such as cooperative programs, or new in evaluation format such as in competency-based education.

A project by the American Association of State Colleges and Universities uses societal trends and societal values as a way of planning futures and bringing planning assumptions into focus. The project uses a cross-influence matrix of 12 societal trends and 12 values to determine goals in 10 areas. The 12 societal trends are population, government, global affairs, environment, energy, economy, science and technology, human settlements, work, life style, women and participation. The 12 societal values are change, freedom, equality, leisure, interdependence, pluralism, localism, ethics, knowledge, quality, goals, and foresight. The 10 goal areas are finance, students, research and development, public service, facilities, faculty, curricula, administration, resources, and athletics.[13]

North Central Technical College also developed a list of categories for setting goals and objectives (1) as a means for stimulating goals and objectives across a broad range of areas, (2) to provide a guide for similarity of goals and objectives for all departments within the college, and (3) as a framework for allocating dollars to goals and objectives across the college. A list of Categories of Goals and Objectives is as follows:

CATEGORIES FOR SPECIFYING GOALS AND OBJECTIVES

1. MISSION ATTAINMENT
   - a. Promote understanding of mission statement within the college
   - b. Promote understanding of mission statement outside the college
   - c. Facilitate mission attainment (assumptions, goals and objectives, dollars to goals)
   - d. Develop means to evaluate mission attainment
2. FUNCTIONAL RELATIONSHIPS
   - a. Identify agencies and organizations
     - (1) School systems
     - (2) Business and industry
     - (3) Service organizations
     - (4) Accreditation associations
   - b. Develop policy and procedures
   - c. Specify strategy for pursuing positive functional relationships
3. QUALITATIVE IMPROVEMENTS
   - a. Academic Programs
     - (1) Curriculum content and content formats
     - (2) Alternative teaching strategies and techniques
     - (3) Alternative ways for evaluating competencies
     - (4) Minimum competency standards
     - (5) Interdisciplinary considerations
   - b. Student Services
     - (1) Define comprehensive services in light of contemporary needs
     - (2) Analyze what exists in light of contemporary needs
     - (3) Diagnose needs of students
     - (4) Link institutional resources to diagnosed student needs
   - c. Institutional Management
     - (1) Implement Planning, Management, and Evaluation (PME) System
     - (2) Team leadership participatory mode of planning/management

(3) Review policies, functions, organizational structure, and procedures
(4) Program cost analysis

4. MARKET ANALYSIS
   a. Specify method of market analysis
   b. Develop programs in relationship to identified needs
   c. Specify policy and procedures for marketing (promoting) programs
   d. Analyze traditional college bound students by school district
   e. Identify non-traditional client markets
   f. Develop strategies to penetrate further traditional/non-traditional students
   g. Develop strategies to assist organizations diagnose training needs
5. PROFESSIONAL DEVELOPMENT
   a. Diagnose need
   b. Develop programs
   c. Allocate resources
   d. Affirmative action
6. PUBLIC RELATIONS
   a. List the college's major publics
   b. Examine alternative ways to communicate with publics
   c. Specify policy and procedure for systematic cultivation of various publics
7. FUNDING SOURCES
   a. Specify resource requirements over multi-year time-line
   b. Examine alternative funding sources
   c. Create policy and procedure for pursuing grantsmanship
   d. Incorporate grant management into college operations

A second objective of this presentation is to describe the budgeting process and a method for relating fiscal resources to institutional goals and objectives.

An important step in the development of the planning process is the interface of the budgeting process. The budget is clearly the institution's most important and significant statement of resource allocation and use. Through the budget, the president and the administration of the institution present an assessment of the institution's problems annually and, indeed, proposals for dealing with them. Budget is then the vehicle for communicating details of the president's assessment and recommendations. The budget is the chief instrument for forcing and recording executive decisions about institutional priorities, objectives the institution should seek, the share of the institution's resources that should be dedicated to each area, and how costs should be distributed and underwritten. The annual review necessitated by the preparation of the budget also gives the president and the administration an opportunity to weigh the effectiveness of the institution's programs in achieving their purposes, and to consider how they might be improved. Skillfully handled, the budget can become an invitation to institutional creativity rather than bureaucratic drudgery. The process of interfacing the institutional budget with the comprehensive academic planning process will be referred to as "The Alternative Base Concept." ABC is a planning/budgeting process, a way of relating dollars to the organization's goals and objectives

through the careful study of alternatives.

At the offset of the explanation of this process, let it be clearly stated that ABC budgeting system must be tailored specifically to the needs of each individual institution. Although the planning principles will remain the same, each institution must consider a number of factors which, in all probability, make it different from any other institution. These factors may include:

1. Variation in organizational structure.
2. Current institutional decision-making process.
3. Maturation in institutional planning.
4. Variation in funding sources.
5. Significant differences in the planning calendar.

Within the format of ABC budgeting, alternative base concept is a logical step-by-step approach to budget building, which may be adopted with the five previously mentioned variables.

In a climate where it has become common folklore that of all our social institution's most resistance to change, cemeteries and institutions of higher learning must surely rank at the top, we are fortunate to have at hand a planning process which is designed to produce change.

The concept of the ABC budget process is to build a budget by establishing three alternative budget bases. The first alternative is a continuation budget base, referred to as maintenance level. The alternatives utilized in establishment of this base may be to assume no increase from the current level expenditures, specific percentage increase, or a specific percentage decrease from current level of expenditures. These alternatives allow the cost center to realign expenditures by object code within specific guidelines. The cost center may further elect to reduce expenditures, or to transfer certain expenditures into another cost center, as long as totals do not exceed maintenance level guidelines.

The second major alternative is a reduced budget base, referred to as skeletal level. The concept is for the cost center to rank a series of reductions within specified percentage levels from the maintenance level. North Central Technical College in the current fiscal year assigned reduction from 1% to 10% reductions to be developed, ten in all, each representing an additional 1% reduction from the maintenance level. These reductions are further prioritized so that the first level reduction would create the least effect on the productivity of the cost center.

The third major alternative planning tool is called expansion package. Expansion package alternative budget base is actually an optional "wish list" of expenditures put together in packages addressing one or more objectives. This approach considers the possibility of additional expenditures beyond maintenance level of operation. It is optional in the sense that not every cost center may find it necessary to request additional funds. Expansion packages are ranked in order of importance to the cost center.

Each of these budgets is inter-related in the budget building process and yields a number of alternatives at each stage of the planning process. These alternatives provide both current and future flexibility should plan or resources become altered.

FIGURE 3 describes the ABC budgeting process and indicates the critical decision points at which key data elements are essential. Across the top of the chart are indicated the five decision units that interact to produce the budget document. Although the title of these groupings may vary from institution to institution, their responsibilities within the framework of the planning process will be very similar. The cost center is a unit or natural grouping of activities in an institution's operations for which costs are collected. These elements or segments are budget units for which expenditures are planned. The Academic Council is comprised of division and program directors. The President's Cabinet consists of the chief executive officer of the institution and the institution's three vice presidents - academic affairs, student services and business and finance. The Board of Trustees is the final policy-making group of the institution.

The Budget Committee is comprised of a cross section of the College. Because every faculty and staff member of any given institution is involved in the utilization of college resources, the entire college community, including student representation, should be involved in fiscal planning. At North Central Technical College the Budget Committee was comprised of two representatives of the academic council, one faculty member from each of the four technical divisions, two representatives each from student services, classified staff, and the student advisory board, and was chaired by the vice President for business and finance.

The first series of steps involved development of goals and objectives by the cost centers, with subsequent review by the Academic Council and the President's Cabinet, with final approval by the Board of Trustees. Following this final approval, the goals and objectives go to the Budget Committee for familiarization, and from the Board of Trustees to the President's Cabinet with guidelines for the development of the institutional budget. These guidelines will address themselves to:

1. Maintenance level for cost centers. Prior to furnishing of guidelines, basic work is done by the chief fiscal officer denoting projected income in the form of parameters indicating minimum and maximum expected income for the budget period.
2. The President's Cabinet furnishes a guideline for skeletal levels so that each cost center will project well within the maintenance level projection.

The cost centers then develop budgets relating dollars to goals and objectives. Maintenance levels can be reduced where dollars are not required to support on-going programs or where goals and objectives have been reached. In addition to the maintenance and skeletal levels, budget centers may pro-

ject expansion levels for achievement of additional goals and objectives should additional dollars become available. The Budget Committee rank-orders expansion packages and makes recommendations to the Academic Council and the President's Cabinet. Budget packages may be referred back to the cost center and again to the Budget Committee for further development and review. The President's Cabinet, with the help of the Academic Council, reviews the budget and places its own recommendations on expansion packages if they vary from that of the Budget Committee. The recommendations and comments of the President's Cabinet are shared with the Academic Council and the Budget Committee prior to the finalizing of the budget through action by the Board of Trustees. In the budget building process there are a number of critical points which require key data elements in order to make decisions. These points of decision may well be referred to as decision opportunities since they provide the opportunity to adjust the budget level of expenditures to meet a number of criteria none the least of which is projected income. Opportunity is also provided to trade off priorities of spending levels to meet a variety of objectives to which departments have ascribed. Each critical decision point may also be described as a key element point. Appropriate data must be readily on hand to assist the decision makers in determining the optimum decision opportunity.

To be useful to decision makers key data elements must be:

1. simple
2. complete on important issues
3. timely
4. reflective of the unique characteristics of the institution.

Financial, space, faculty, enrollment, and special information, or combination of two or more of these elements, comprise the key data elements. These elements may be further divided into historical data or projected data, see FIGURE 4. Historical data may be defined as data collected for some specific planning period up to, and including, any previous time frame in which the body of data reached a conclusion. Projected data is a term referencing a group of data within a time frame not yet concluded.

At the first decision point of furnishing guidelines for the development of cost center budgets it would seem imperative that the maximum number of both historical and projected data elements be available. Financial data relative to past and projected income necessarily involve enrollment data. Financial data relative to past and projected expenditures will involve space faculty and enrollment data. Special studies may also require special data elements involving library holdings, supply and equipment inventories, maintenance and repair records and other elements not usually included in the four other categories.

The first decision point would provide the necessary data elements to allow the Board of Trustees and the President's Cabinet to recommend additional or less expenditures in order to provide a base level for the cost centers to begin developing their new budgets.

At the second critical decision point the Budget Committee reviews the budgets developed by the centers. At this point key data elements would be of a specialized nature relative to the accomplishment of previous goals and objectives (historical) and some objective data (projected) relative to outcomes sought. This data could take the form of a point system relating outcome sought in relation to resources utilized (projected). Again, the recommendation by the Budget Committee impacts the maintenance level budget by either an increase or decrease.

The third and fourth decision point, again by some degree, either increases or decreases the cost centers by rank ordering and recommending expansion packages, that is "wish lists", in anticipation of possible additional expenditures beyond maintenance level of operation. A number of key data elements may be required by the decision makers to aid in the rank order of the expansion packages. Elements of financial data such as unit cost, enrollment projections, space utilization, etc. may impact this decision point.

The fifth and sixth decision points will probably require new additional historical or projected data beyond that expressly requested. A timely income projection based on any new known factors, such as the passing of the bienium budget by the state legislature or a revised enrollment projection, would be appropriate in this instance.

The seventh critical decision point involves monitoring of the projected key data elements previously prescribed by the institution. Most likely data to effect change would be a change in financial or enrollment data. However, projected space utilization, course enrollment, increased energy cost beyond projection, etc., may impact the decision to review and recommend revision of that budget.

An approach to the planning of key data elements is the construction of the composite data element use matrix. The matrix is useful not only in identifying outputs that may be planned by the data processing department, but a useful planning tool in the hands of the decision makers. For anyone who has ever served on a committee (this includes the total academic community) nothing is more frustrating than absent data at a planning meeting. A sample composite data element matrix is included in FIGURE 5.

At each critical decision point, an analysis of the key data elements will provide the decision makers with reasoning which is relative to drawing a logical conclusion to either increase or decrease the budgetary guidelines.

In the final analysis the go, no-go, yes or no, black or white, up or down, left turn or right turn decision will be only as good as the reasoning supporting the premise. In this syllogistal approach to planning the availability of simple, complete, timely, and appropriate key data elements is the link between the maximization of resources utilized and the outcomes sought.

The Board of Trustees has the alternative of approving or requesting revision of the final budget. In the case of a request for revision, the entire step regarding development of budgets with review and recommendations would again take place prior to another presentation to the Board of Trustees.

Following the Board of Trustees approval of the total budget, it is released to the cost centers for implementation. At that time, if projected income is better known, the approval will request the addition or deletion of funds through either levels of skeletal budget released or level of expansion packages released. During this series of reviews, the budget may be altered by variations in income through additional application of skeletal level deductions, further release of dollars for additional priorities of expansion packages, or the possible selective decrease of budgets with review and recommendation by Budget Committee, President's Cabinet and the Academic Council, and of course, final approval by the Board of Trustees. In most instances, boards of trustees will allow administrations to handle minimal changes in total budget without requiring additional approval by the Board.

Evaluation, revision and review are constant effort by the President's Cabinet, the Academic Council, the Board of Trustees, and the Budget Committee. Revision may be made at any critical point during the fiscal year with the use of predetermined skeletal and expansion package formulation. Only when income drops severely below projected skeletal base projections, will it be necessary to go back to the cost centers for additional budget revisions. Once the three budgets are developed by the cost centers, they are relieved of the requirements of budget development until the next fiscal year.

Examination of the responsibilities on a vertical line under the developing bodies indicates that cost centers develop goals and objectives, develop budgets, and finally implement these budgets. The duties of the President's Cabinet are mainly to review, furnish guidelines, evaluate the results, and in some instances revise budgets. The Academic Council reviews and evaluates the budget and the Board of Trustees approves, advises and evaluates. The Budget Committee has a duty of familiarizing themselves with the goals and objectives and to review, recommend, and evaluate the development of budgets and the results thereof. The process may be described as a two-way process of recommendations and communications.

Although the final budget recommendations are the responsibility of the administration of the College, the ultimate budget decision rests with the College Board of Trustees. Because the educational enterprise is run on a bottom line measured by service as opposed to profit, the process lends itself to interaction by dedicated individuals involved in different function of the institution to focus on purposes and outcome based on the organization's mission, goals and objectives.

A third objective of this presentation is to discuss the relationship between data and its use in a planning, management, evaluation (PME) system. The first section of this document described in some detail a planning process. The second section of this document described a budgeting process for relating

resources to goals and objectives. That which is planned for during one fiscal year will be managed (implemented and coordinated) during the next fiscal year. Evaluation will occur both during the years the processes of planning and managing take place as well as during the following year. If an institution improves its planning-budgeting process in Year 1, a formative evaluation occurs that same year followed by a summative evaluation sometime later. During Year 2, an institution can improve its managing-budgeting process. A formative evaluation of the managing-budgeting process will be made during that year followed by a summative evaluation sometime later. This concept is basic in order to understand the relationship between data and its use in a PME system. The PME concept is displayed in FIGURE 6.

As indicated earlier in this presentation, organizations strive to gather facts and put them together to produce meaning. These facts can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional program costs, (5) library costs, (6) faculty productivity, (7) personnal benefits, (8) new program development, (9) student learning outcomes, and (10) fund raising. These categories are to be the same as modules developed in the Planning and Data System (PDS), a project by The Council for the Advancement of Small Colleges and generously funded by the Carnegie Corporation of New York over a five-year period. Each of these modules can be used independently to deal with a specific institutional concern or the modules can be linked in ways that deal with a larger set of concerns.

For purposes of discussion, let us assume that an institution had a desire to penetrate further the traditional college-bound student market as well as the older adult markets within a geographic region. Such a stance would require data about potential client markets and their specific educational needs as well as ongoing program cost in order to reallocate resources to accomodate new programs. Data play an important role in the planning process as well as in the management and evaluating functions. It seems logical, therefore, to create a model for the display of data for use at critical points in the decision-making process during the planning/budgeting fiscal year as well as the managing/budgeting fiscal year. Such a model is displayed in FIGURE 7. Instructional program costs and attrition/retention data are particularly important to make GO/NO GO about the continuation/discontinuation of specific programs. NO GO decisions about particular programs could provide resources to make GO decisions about new programs. Admissions data and attrition/retention historical data are necessary to project future enrollment and anticipated revenue. Admissions data at the beginning of the term are essential in making adjustments during the managing/budgeting fiscal year. Thus, an institution can develop a matrix for sideplaying critical times for reviewing categories of institutional data during the planning/budgeting and managing/budgeting fiscal years.

CONCLUSION

How well higher education meets the needs of its students and the

society in which it exists is a function, for the most part, of its degree of sophistication in planning, comprehensive, long-range, and systematic. Critical as institutional planning is to a college's survival, only a very small number "have effectively developed a plan, based on sound data about themselves and their setting, which is revised at least annually and upon which the institution's leadership acts. daily".[1]

A comprehensive planning process includes (1) a planning protocol, (2) a planning structure, (3) external and internal assumptions, (4) goals and objectives, (5) a method for developing programs from high priority goals, and (6) an evaluation protocol. Planning is a primary administrative function antecedent to managing and evaluating. A Planning, Managing, Evaluating (PME) system is firmly based on an organizational process which strives to gather facts and put them together to produce meaning. These facts are linked to the mission and essential purposes of the institution and can be aggregated under categories such as (1) admissions, (2) financial aid, (3) attrition and retention, (4) instructional programs costs, (5) library, (6) faculty productivity and reward structure, (7) personnel benefits, (8) new program development, (9) student learning outcomes, and (10) fund raising.

Data are the foundation upon which to build the multi-year institution Plan, a document containing a grand design representing intelligent anticipation of activities, events, and experimental observations carefully specified in advance to move from one point to another. Data are needed (1) about environmental assumptions upon which to base planning; (2) about potential clients and unmet societal needs growing out of a needs assessment or market analysis/market segmentation process; and (3) for managing institutional areas as specified above. Probably most important, however, the data analysis process must strive to produce meaning as it relates to efficiency and effectiveness of relating dollars to institutional goals and objectives.

FOOTNOTES

[1]L. Richard Meeth, Quality Education for Less Money (San Francisco: Josey-Bass, Inc., 1974), p. 2.

[2]Final Report, May 1974, p. 15.

[3]Higher Education in Ohio, Master Plan: 1976, p. 87.

[4]Norman C. Harris and John F. Grede, Career Education in Colleges (San Francisco: Jossey-Bass, 1977).

[5]Francis Keppel, The Necessary Revolution in American Education (New York: Harper and Row Publishers, 1966).

[6]K. Patricia Cross, Accent on Learning (San Francisco: Jossey-Bass, 1976).

[7]Fred Harvey Harrington, The Future of Adult Education (San Francisco: Jossey-Bass, 1976).

[8]Willard Wertz, The Boundless Resource (New York: E.P. Dutton, 1976). and Dyckman W. Vermilye (ed.), Relating Work and Education (San Francisco: Jossey-Bass, Inc., 1977).

[9]Lifelong Learning Project, 608 13th Street, N.W. Room 608, Washington, D.C.

[10]"Pooled Resources and Shared Services for Professional Growth", Conference on Interinstitutional Leadership," Washington, D.C., October 25, 1976.

[11]U.S. News and World Report, November 28, 1977, pp. 62-68.

[12]Philip Kotler, Marketing for Nonprofit Organizations (Englewood Cliffs, N.J.: Prentice Hall, 1976).

[13]A Futures Creating Paradigm: A Guide to Long-Range Planning From the Future For the Future American Association of State Colleges and Universities, Resource Center for Planned Change, 1978.

FIGURE 1

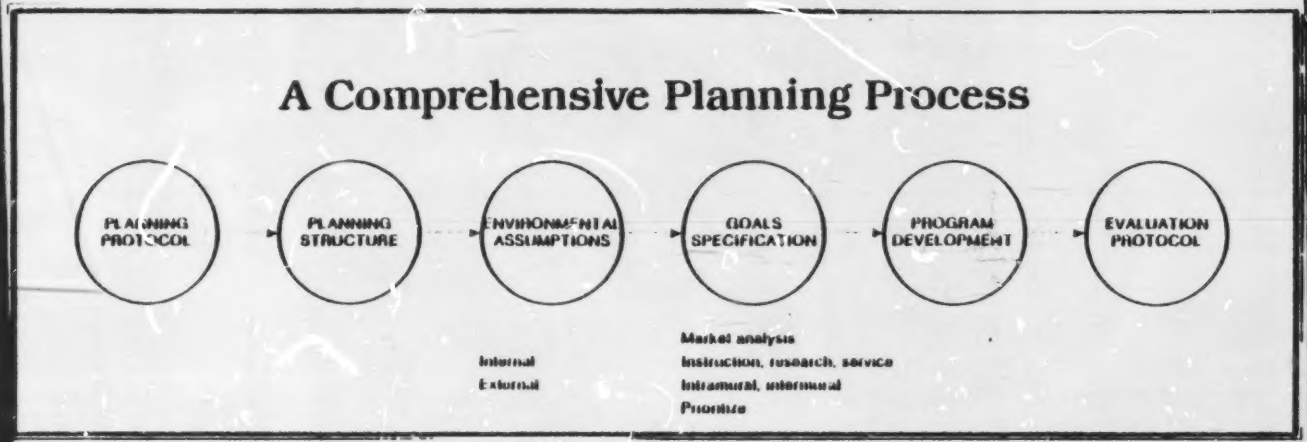

A Comprehensive Planning Process
PLANNING PROTOCOL
PLANNING STRUCTURE
ENVIRONMENTAL ASSUMPTIONS
GOALS SPECIFICATION
PROGRAM DEVELOPMENT
EVALUATION PROTOCOL
Internal
External
Market analysis
Instruction, research, service
Intramural, extramural
Priorities

FIGURE 2

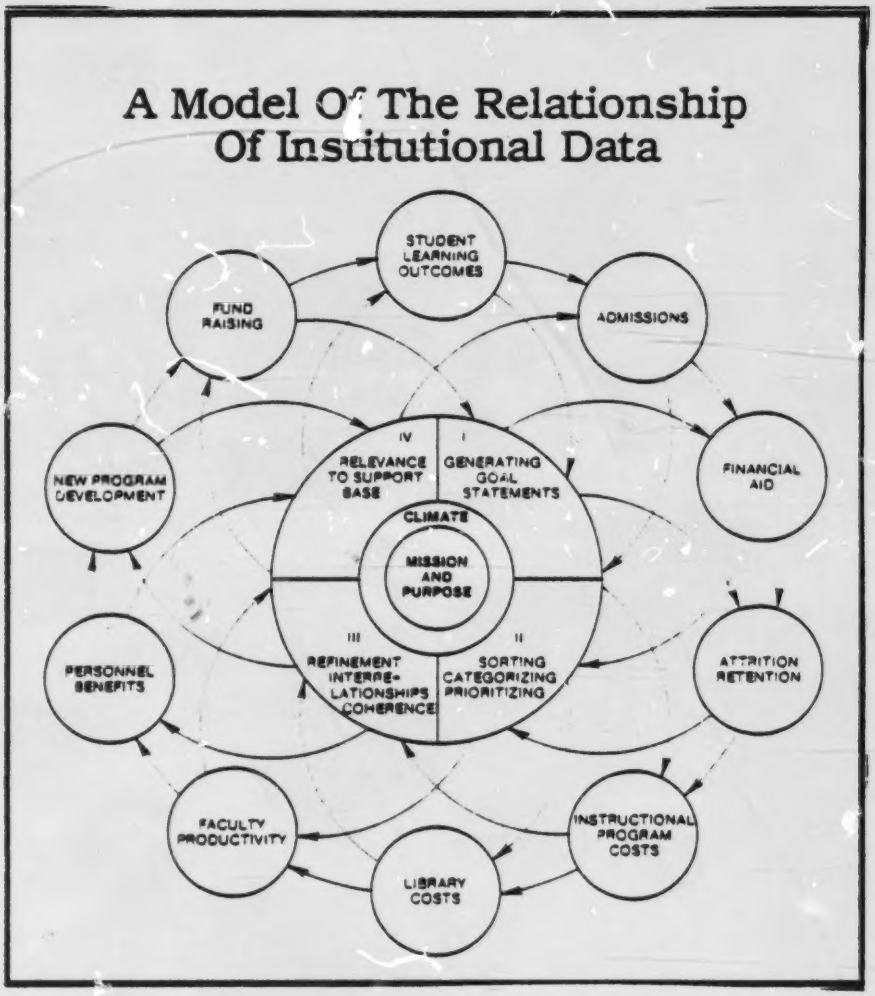
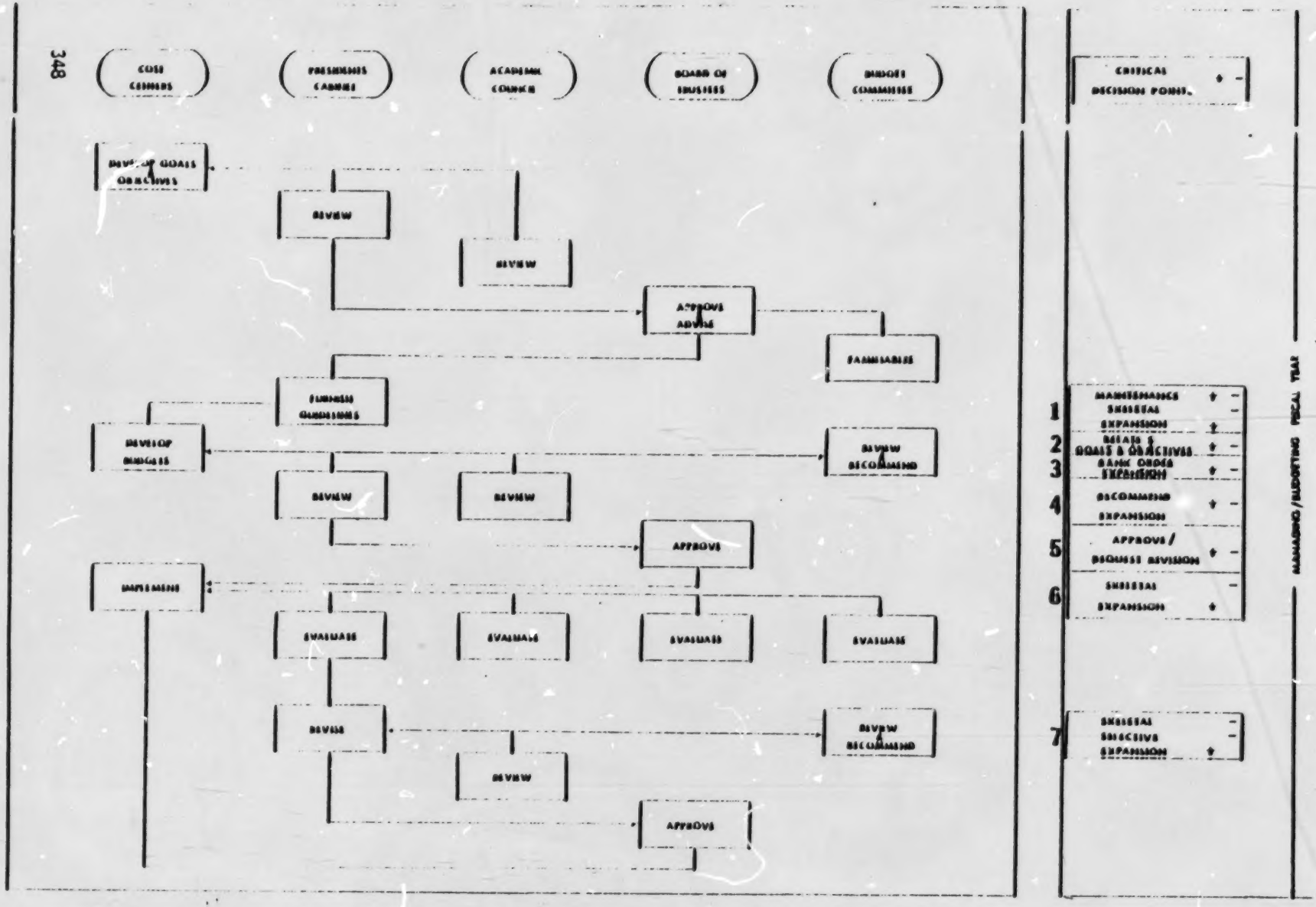

A Model Of The Relationship Of Institutional Data
STUDENT LEARNING OUTCOMES
FUND RAISING
ADMISSIONS
NEW PROGRAM DEVELOPMENT
FINANCIAL AID
IV
RELEVANCE TO SUPPORT BASE
I
GENERATING GOAL STATEMENTS
CLIMATE
MISSION AND PURPOSE
III
REFINEMENT INTERRE-LATIONSHIPS COHERENCE
II
SORTING CATEGORIZING PRIORITIZING
PERSONNEL BENEFITS
ATTRITION RETENTION
FACULTY PRODUCTIVITY
INSTRUCTIONAL PROGRAM COSTS
LIBRARY COSTS

FIGURE 3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COST CENTERS
PRESIDENTS CABINET
ACADEMIC COUNCIL
BOARD OF TRUSTEES
BUDGET COMMITTEE
CRITICAL DECISION POINTS
REVIEW
REVIEW
APPROVE
ADVISE
FAMILIARIZE
REVIEW RECOMMEND
REVIEW
REVIEW
APPROVE
EVALUATE
EVALUATE
EVALUATE
EVALUATE
REVIEW RECOMMEND
REVIEW
APPROVE
1
2
3
4
5
6
7
EXPANSION
EXPANSION
EXPANSION
APPROVE / REQUEST REVISION
EXPANSION
SELECTIVE
EXPANSION
MANAGING/BUDGETING FISCAL TRAP

FIGURE 4

BASIC DATA ELEMENTS

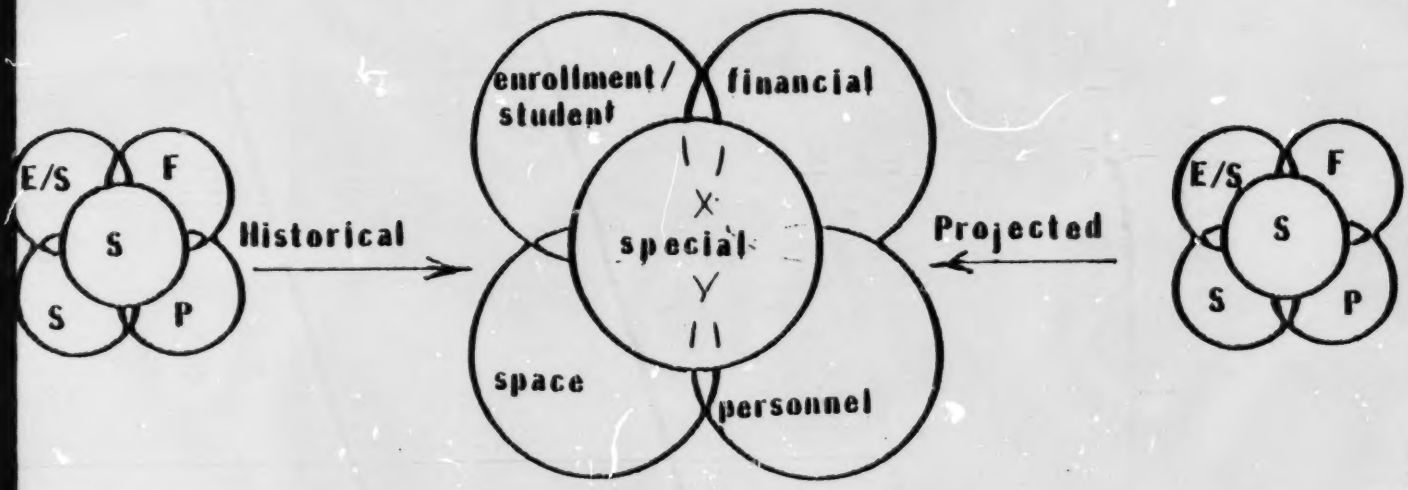

FIGURE 5

IDENTIFIERS FOR POSSIBLE LEVELS OF AGGREGATION/REPORTING

Enrollment and Student Characteristics	Decision Points: H - Historical, P - Projected						
	1	2	3	4	5	6	7
Enrollment by Technology	H/P		H/P	H/P	P	P	H
Course Requirements	H/P		H/P	H/P	P	P	H
Course Section Size	H/P				P	P	H
Average Student Load	H/P				P		
Placement Record	H/P					H	
Student Profile	H/P		H/P	H/P	H/P		
Staffing & Personnel Characteristics							
F.T.E. Staffing Requirements	H/P		H/P	H/P	H/P		
F.T.E. Faculty/Student Ratio	H/P		H/P	H/P			H
F.T.E. Staff/Student Ratio	H/P		H/P	H/P			H
Faculty Load Analysis	H/P		H/P	H/P			H
Space Inventory and Utilization							
Room Utilization	H/P		H/P	H/P			H
Scheduling						P	H
Space Requirements	H/P		H/P	H/P	P	P	
Income and Expenditures							
I. & G. Income Summary	H/P				P	P	H
I. & G. Expenditures Summary	H/P				P	P	H
Descriptive Models	H/P						
Salaries	H/P				H/P		
Instructional Costs	H/P						H
Support Costs	H/P						H
Unit Cost Studies	H/P		H/P	H/P	H/P		
Special Reports		H/P	H/P	H/P	H/P	P	H

COMPOSITE DATA ELEMENT USE MATRIX

DATA ELEMENTS:	Enrollment/Student	Student Inventory	Course Inventory	Program Inventory	Degrees Awarded	Placement	Financial Resources	Commitments	Fund Balances	Personnel	Staffing	Salaries	Misc. Data	Space	Inventory	Special Use
Enrollment by Technology		X	X	X							X		X			
Course Requirements		X	X	X							X					
Course Section Size		X	X	X							X					
Average Student Load				X									X			
Placement Record					X	X										
Student Profile		X		X							X		X			
F.T.E. Staffing Requirements		X	X	X							X		X			
F.T.E. Faculty/Student Ratio		X									X					
F.T.E. Staff/Student Ratio		X	X	X							X					
Faculty Load Analysis		X		X									X			
Room Utilization		X	X	X										X	X	
Scheduling		X	X	X							X		X	X	X	
Space Requirements		X	X	X			X	X	X					X	X	
I. & G. Income Summary		X	X	X			X		X							
I. & G. Expenditures Summary		X	X	X			X	X	X							
Descriptive Models		X	X	X		X	X	X	X	X	X	X	X	X	X	
Salaries		X	X	X			X	X	X	X	X	X	X			
Instructional Costs		X	X	X			X	X	X	X	X	X	X			
Support Costs		X	X	X			X	X	X	X	X	X	X			
Unit Cost Studies		X	X	X		X	X	X	X	X	X	X	X	X	X	
Special Reports	X															X

FIGURE 6

The Planning, Management, Evaluation Concept

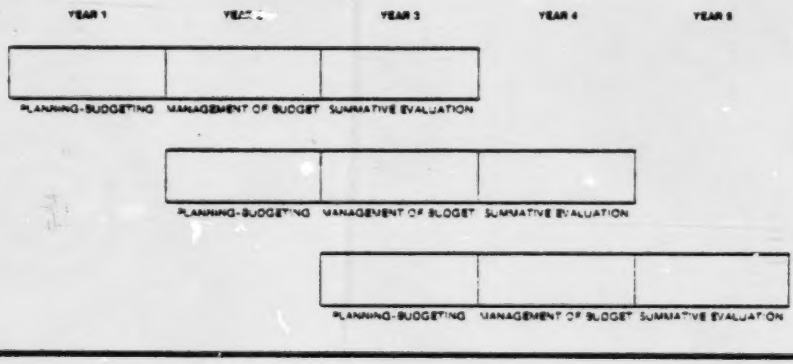

FIGURE 7

Data And Decision Making

CATEGORIES OF DATA	PLANNING-BUDGETING FISCAL YEAR						MANAGING-BUDGETING FISCAL YEAR						SUMMATIVE EVALUATION					
	July 1					June 30	July 1					June 30						
ADMISSIONS																		
FINANCIAL AID																		
ATTRITION/RETENTION																		
INSTITUTIONAL PROGRAM COSTS																		
LIBRARY COSTS																		
FACULTY PRODUCTIVITY																		
PERSONNEL BENEFITS																		
NEW PROGRAM DEVELOPMENT																		
LEARNING OUTCOMES																		
FUND RAISING																		